

## WHAT IS CLAIMED IS:

1. A seal structure of a fuel cell unit comprising:
  - a plurality of components of the fuel cell unit, which are stacked;
  - a sealant which is made of a material which maintains an initial
  - 5 material state even under an environment where the fuel cell unit is used, the material being selected from a gel material, high viscosity material and pressure-sensitive adhesive material; and
  - a retaining portion which is formed at least one of two of the
  - components between which the sealant is interposed, so as to prevent the sealant from
  - 10 moving.
2. The seal structure according to claim 1, wherein the retaining portion is formed at a portion of at least one of two of the components where the sealant is interposed between the two components.
- 15 3. The seal structure according to claim 1, wherein the retaining portion is formed on at least one of surfaces of the two components, the surfaces facing each other.
- 20 4. The seal structure according to claim 1, wherein the retaining portion has a surface that receives a pressure applied along a plane direction of the surfaces of the components through the sealant.
5. The seal structure according to claim 1, further comprising:
  - 25 a spacing portion which keeps a constant distance between portions of the two components where the sealant is interposed.
6. The seal structure according to claim 5, wherein the spacing portion is provided as part of the component.
- 30 7. The seal structure according to claim 5, wherein the spacing portion is provided separate from the component.

8. The seal structure according to claim 5, wherein the spacing portion is formed on at least one of the surfaces of the components, the surfaces facing each other.

5 9. The seal structure according to claim 5, wherein the components are electrically insulated from each other at the spacing portion.

10. The seal structure according to claim 1, wherein the sealant has adhesivity in at least a surface thereof.

10 11. The seal structure according to claim 1, wherein the retaining portion is formed concave or convex toward the sealant.

15 12. The seal structure according to claim 1, wherein the two components are both separators.

13. The seal structure according to claim 1, wherein the two components are a separator and an electrolyte membrane.

20 14. The seal structure according to claim 1, wherein the fuel cell unit is of a low-temperature type.

15. A method for manufacturing a seal structure of a fuel cell unit, comprising:

25 a sealant application step in which a sealant is applied to first component of the fuel cell unit, the sealant being made of a material selected from a gel material, high viscosity material, and pressure-sensitive adhesive material and being adapted to maintain an initial material state even under an environment where the fuel cell unit is used;

30 a hardening step of hardening the sealant; and  
a stacking step of stacking the first component and a second component after the hardening step.

16. The method according to claim 15, wherein the fuel cell unit is of a low-temperature type.